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Effects of Tobacco Smoke and Nicotine on Coronary Collateral Blood Flow.

The effects of inhaled tobacco smoke on coronary hemodynamics and regional blood flow will be investigated in dogs with acute or chronic coronary artery occlusion.

Exposure to tobacco smoke will be accomplished by placing a lighted cigarette in the air intake line of the respirator. The distribution of blood flow in myocardium and in other tissues will be computed from the uptake of differently labeled radioactive microspheres (7-10 μ) administered during control and experimental conditions. Chronic coronary occlusion will be accomplished by surgically implanting an ameroid constrictor on the anterior descending coronary artery, six to eight weeks before the acute study.

Alpha and beta adrenergic blocking agents will also be administered to determine their effects on the hemodynamic and blood flow response to tobacco smoke.

Activation Date: July 1, 1976

Current Grant Level: $18,222.

1005025472

Source: https://www.industrydocuments.ucsf.edu/docs/qgxl0000